

SEQUENCE LISTING

<110> AVIDIS SA

<120> MULTIMERIC COMPLEXES OF ANTIGENS AND ADJUVANTS

<130> 620-359

<140> 10/523,593

<141> 2006-02-27

<150> EP 02292042.5

<151> 2002-08-14

<160> 20

<170> PatentIn Ver. 2.1

<210> 1

<211> 57

<212> PRT

<213> Homo sapiens

<400> 1

Glu	Thr	Pro	Glu	Gly	Cys	Glu	Gln	Val	Leu	Thr	Gly	Lys	Arg	Leu	Met
1				5					10					15	

Gln	Cys	Leu	Pro	Asn	Pro	Glu	Asp	Val	Lys	Met	Ala	Leu	Glu	Val	Tyr
			20					25					30		

Lys	Leu	Ser	Leu	Glu	Ile	Glu	Gln	Leu	Glu	Leu	Gln	Arg	Asp	Ser	Ala
		35					40					45			

Arg	Gln	Ser	Thr	Leu	Asp	Lys	Glu	Leu
		50				55		

<210> 2

<211> 57

<212> PRT

<213> Oryctolagus cuniculus

<400> 2

Glu	Val	Pro	Glu	Gly	Cys	Glu	Gln	Val	Gln	Ala	Gly	Arg	Arg	Leu	Met
1				5					10					15	

Gln	Cys	Leu	Ala	Asp	Pro	Tyr	Glu	Val	Lys	Met	Ala	Leu	Glu	Val	Tyr
			20					25					30		

Lys	Leu	Ser	Leu	Glu	Ile	Glu	Leu	Leu	Glu	Leu	Gln	Arg	Asp	Lys	Ala
		35					40					45			

Arg	Lys	Ser	Ser	Val	Leu	Arg	Gln	Leu
		50				55		

<210> 3
<211> 55
<212> PRT
<213> Rattus sp.

<400> 3
Glu Val Pro Lys Asp Cys Glu His Val Phe Ala Gly Lys Lys Leu Met
1 5 10 15
Gln Cys Leu Pro Asn Ser Asn Asp Val Lys Met Ala Leu Glu Val Tyr
20 25 30
Lys Leu Thr Leu Glu Ile Lys Gln Leu Gln Leu Gln Ile Asp Lys Ala
35 40 45
Lys His Val Asp Arg Glu Leu
50 55

<210> 4
<211> 54
<212> PRT
<213> Mus sp.

<400> 4
Glu Ala Ser Glu Asp Leu Lys Pro Ala Leu Thr Gly Asn Lys Thr Met
1 5 10 15
Gln Tyr Val Pro Asn Ser His Asp Val Lys Met Ala Leu Glu Ile Tyr
20 25 30
Lys Leu Thr Leu Glu Val Glu Leu Leu Gln Leu Gln Ile Gln Lys Glu
35 40 45
Lys His Thr Glu Ala His
50

<210> 5
<211> 67
<212> PRT
<213> Bos sp.

<400> 5
Glu Tyr Pro Glu Gly Cys Glu Gln Val Val Thr Gly Arg Lys Leu Leu
1 5 10 15
Gln Cys Leu Ser Arg Pro Glu Glu Val Lys Leu Ala Leu Glu Val Tyr
20 25 30
Lys Leu Ser Leu Glu Ile Glu Ile Leu Gln Thr Asn Lys Leu Lys Lys
35 40 45
Glu Ala Phe Leu Leu Arg Glu Arg Glu Lys Asn Val Thr Cys Asp Phe
50 55 60

Asn Pro Glu
65

<210> 6
<211> 57
<212> PRT
<213> *Sus scrofa*

<400> 6
Glu Tyr Pro Glu Asp Cys Glu Gln Val His Glu Gly Lys Lys Leu Met
1 5 10 15
Glu Cys Leu Pro Thr Leu Glu Glu Ile Lys Leu Ala Leu Ala Leu Tyr
20 25 30
Lys Leu Ser Leu Glu Thr Asn Leu Leu Glu Leu Gln Ile Asp Lys Glu
35 40 45
Lys Lys Ala Lys Ala Lys Tyr Ser Thr
50 55

<210> 7
<211> 56
<212> PRT
<213> *Cavia porcellus*

<400> 7
Glu Val Pro Glu Glu Cys Lys Gln Val Ala Ala Gly Arg Lys Leu Leu
1 5 10 15
Glu Cys Leu Pro Asn Pro Ser Asp Val Lys Met Ala Leu Glu Val Tyr
20 25 30
Lys Leu Ser Leu Glu Ile Glu Gln Leu Glu Lys Glu Lys Tyr Val Lys
35 40 45
Ile Gln Glu Lys Phe Ser Lys Glu
50 55

<210> 8
<211> 59
<212> PRT
<213> *Mus sp.*

<400> 8
Glu Val Leu Glu Asp Cys Arg Ile Val Ser Arg Gly Ala Gln Leu Leu
1 5 10 15
His Cys Leu Ser Ser Pro Glu Asp Val His Arg Ala Leu Lys Val Tyr
20 25 30
Lys Leu Phe Leu Glu Ile Glu Arg Leu Glu His Gln Lys Glu Lys Trp
35 40 45

Ile Gln Leu His Arg Lys Pro Gln Ser Met Lys
50 55

<210> 9
<211> 52
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Variant of the
C4bp core protein

<400> 9
Cys Glu Gln Val Leu Thr Gly Lys Arg Leu Met Gln Cys Leu Pro Asn
1 5 10 15
Pro Glu Asp Val Lys Met Ala Leu Glu Val Tyr Lys Leu Ser Leu Glu
20 25 30
Ile Glu Gln Leu Glu Leu Gln Arg Asp Ser Ala Arg Gln Ser Thr Leu
35 40 45
Asp Lys Glu Leu
50

<210> 10
<211> 57
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Variant of the
C4bp core protein

<400> 10
Glu Thr Pro Glu Gly Cys Glu Gln Val Leu Thr Gly Lys Arg Leu Met
1 5 10 15
Gln Cys Leu Pro Asn Pro Glu Asp Val Lys Met Ala Leu Glu Val Tyr
20 25 30
Lys Leu Ser Leu Glu Ile Lys Gln Leu Glu Leu Gln Arg Asp Ser Ala
35 40 45
Arg Gln Ser Thr Leu Asp Lys Glu Leu
50 55

<210> 11
<211> 52
<212> PRT
<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Variant of the
C4bp core protein

<400> 11

Cys Glu Gln Val Leu Thr Gly Lys Arg Leu Met Gln Cys Leu Pro Asn
1 5 10 15

Pro Glu Asp Val Lys Met Ala Leu Glu Val Tyr Lys Leu Ser Leu Glu
20 25 30

Ile Lys Gln Leu Glu Leu Gln Arg Asp Ser Ala Arg Gln Ser Thr Leu
35 40 45

Asp Lys Glu Leu
50

<210> 12

<211> 57

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Variant of the
C4bp core protein

<400> 12

Glu Thr Pro Glu Gly Cys Glu Gln Val Leu Thr Gly Lys Arg Leu Met
1 5 10 15

Gln Cys Leu Pro Asn Pro Glu Asp Val Lys Met Ala Leu Glu Ile Tyr
20 25 30

Lys Leu Ser Leu Glu Ile Glu Gln Leu Glu Leu Gln Arg Asp Ser Ala
35 40 45

Arg Gln Ser Thr Leu Asp Lys Glu Leu
50 55

<210> 13

<211> 57

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Variant of the
C4bp core protein

<400> 13

Glu Thr Pro Glu Gly Cys Glu Gln Val Leu Thr Gly Lys Arg Leu Met
1 5 10 15

Gln Cys Leu Pro Asn Pro Glu Asp Val Lys Met Ala Leu Glu Ile Tyr
20 25 30

Lys Leu Ser Leu Glu Ile Lys Gln Leu Glu Leu Gln Arg Asp Ser Ala
35 40 45

Arg Gln Ser Thr Leu Asp Lys Glu Leu
50 55

<210> 14

<211> 50

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Variant of the
C4bp core protein

<400> 14

Glu Gly Cys Glu Gln Ala Leu Thr Gly Lys Arg Leu Met Gln Cys Leu
1 5 10 15

Pro Asn Pro Glu Asp Val Lys Met Ala Leu Glu Ile Tyr Lys Leu Ser
20 25 30

Leu Glu Ile Lys Gln Leu Glu Leu Gln Arg Asp Ser Ala Arg Gln Ser
35 40 45

Thr Leu
50

<210> 15

<211> 57

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Variant of the
C4bp core protein

<400> 15

Glu Thr Pro Glu Gly Ser Glu Gln Val Leu Thr Gly Lys Arg Leu Met
1 5 10 15

Gln Ser Leu Pro Asn Pro Glu Asp Val Lys Met Ala Leu Glu Val Tyr
20 25 30

Lys Leu Ser Leu Glu Ile Lys Gln Leu Glu Leu Gln Arg Asp Ser Ala
35 40 45

Arg Gln Ser Thr Leu Asp Lys Glu Leu
50 55

<210> 16

<211> 52
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Variant of the
C4bp core protein

<400> 16
Glu Gly Ser Glu Gln Ala Leu Thr Gly Lys Arg Leu Met Gln Ser Leu
1 5 10 15
Pro Asn Pro Glu Asp Val Lys Met Ala Leu Glu Ile Tyr Lys Leu Ser
20 25 30
Leu Glu Ile Glu Gln Leu Glu Leu Gln Arg Asp Ser Ala Arg Gln Ser
35 40 45
Thr Leu Asp Lys
50

<210> 17
<211> 370
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Fusion Protein

<400> 17
Met Lys Phe Leu Pro Leu Phe Asp Arg Val Leu Val Glu Arg Ser Ala
1 5 10 15
Gly Ser Val Asp Ala Glu Arg Leu Lys His Leu Ile Val Thr Pro Ser
20 25 30
Gly Ser Gly Glu Gln Asn Met Ile Gly Met Thr Pro Thr Val Ile Ala
35 40 45
Val His Tyr Leu Asp Glu Thr Glu Gln Trp Glu Lys Phe Gly Leu Glu
50 55 60
Lys Arg Gln Gly Ala Leu Glu Leu Ile Lys Lys Gly Tyr Thr Gln Gln
65 70 75 80
Leu Ala Phe Arg Gln Pro Ser Ser Ala Phe Ala Ala Phe Val Lys Arg
85 90 95
Ala Pro Ser Thr Trp Leu Thr Ala Tyr Val Val Lys Val Phe Ser Leu
100 105 110
Ala Val Asn Leu Ile Ala Ile Asp Ser Gln Val Leu Cys Gly Ala Val
115 120 125
Lys Trp Leu Ile Leu Glu Lys Gln Lys Pro Asp Gly Val Phe Gln Glu
130 135 140

Asp Ala Pro Val Ile His Gln Glu Met Ile Gly Gly Leu Arg Asn Asn
 145 150 155 160
 Asn Glu Lys Asp Met Ala Leu Thr Ala Phe Val Leu Ile Ser Leu Gln
 165 170 175
 Glu Ala Arg Asp Ile Cys Glu Glu Gln Val Asn Ser Leu Pro Gly Ser
 180 185 190
 Ile Thr Lys Ala Gly Asp Phe Leu Glu Ala Asn Tyr Met Asn Leu Gln
 195 200 205
 Arg Ser Tyr Thr Val Ala Ile Ala Gly Tyr Ala Leu Ala Gln Met Gly
 210 215 220
 Arg Leu Lys Gly Pro Leu Leu Asn Lys Phe Leu Thr Thr Ala Lys Asp
 225 230 235 240
 Lys Asn Arg Trp Glu Asp Pro Gly Lys Gln Leu Tyr Asn Val Glu Ala
 245 250 255
 Thr Ser Tyr Ala Leu Leu Ala Leu Leu Gln Leu Lys Asp Phe Asp Phe
 260 265 270
 Val Pro Pro Val Val Arg Trp Leu Asn Glu Gln Arg Tyr Tyr Gly Gly
 275 280 285
 Gly Tyr Gly Ser Thr Gln Ala Thr Phe Met Val Phe Gln Ala Leu Ala
 290 295 300
 Gln Tyr Gln Lys Asp Ala Pro Gly Ser Glu Thr Pro Glu Gly Cys Glu
 305 310 315 320
 Gln Val Leu Thr Gly Lys Arg Leu Met Gln Cys Leu Pro Asn Pro Glu
 325 330 335
 Asp Val Lys Met Ala Leu Glu Val Tyr Lys Leu Ser Leu Glu Ile Glu
 340 345 350
 Gln Leu Glu Leu Gln Arg Asp Ser Ala Arg Gln Ser Thr Leu Asp Lys
 355 360 365
 Glu Leu
 370

<210> 18

<211> 387

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Fusion Protein

<400> 18

Met	Lys	Phe	Leu	Pro	Leu	Phe	Asp	Arg	Val	Leu	Val	Glu	Arg	Ser	Ala	1	5	10	15
Gly	Ser	Val	Asp	Ala	Glu	Arg	Leu	Lys	His	Leu	Ile	Val	Thr	Pro	Ser	20	25	30	
Gly	Ser	Gly	Glu	Gln	Asn	Met	Ile	Gly	Met	Thr	Pro	Thr	Val	Ile	Ala	35	40	45	
Val	His	Tyr	Leu	Asp	Glu	Thr	Glu	Gln	Trp	Glu	Lys	Phe	Gly	Leu	Glu	50	55	60	
Lys	Arg	Gln	Gly	Ala	Leu	Glu	Leu	Ile	Lys	Lys	Gly	Tyr	Thr	Gln	Gln	65	70	75	80
Leu	Ala	Phe	Arg	Gln	Pro	Ser	Ser	Ala	Phe	Ala	Ala	Phe	Val	Lys	Arg	85	90	95	
Ala	Pro	Ser	Thr	Trp	Leu	Thr	Ala	Tyr	Val	Val	Lys	Val	Phe	Ser	Leu	100	105	110	
Ala	Val	Asn	Leu	Ile	Ala	Ile	Asp	Ser	Gln	Val	Leu	Cys	Gly	Ala	Val	115	120	125	
Lys	Trp	Leu	Ile	Leu	Glu	Lys	Gln	Lys	Pro	Asp	Gly	Val	Phe	Gln	Glu	130	135	140	
Asp	Ala	Pro	Val	Ile	His	Gln	Glu	Met	Ile	Gly	Gly	Leu	Arg	Asn	Asn	145	150	155	160
Asn	Glu	Lys	Asp	Met	Ala	Leu	Thr	Ala	Phe	Val	Leu	Ile	Ser	Leu	Gln	165	170	175	
Glu	Ala	Lys	Asp	Ile	Cys	Glu	Glu	Gln	Val	Asn	Ser	Leu	Pro	Gly	Ser	180	185	190	
Ile	Thr	Lys	Ala	Gly	Asp	Phe	Leu	Glu	Ala	Asn	Tyr	Met	Asn	Leu	Gln	195	200	205	
Arg	Ser	Tyr	Thr	Val	Ala	Ile	Ala	Gly	Tyr	Ala	Leu	Ala	Gln	Met	Gly	210	215	220	
Arg	Leu	Lys	Gly	Pro	Leu	Leu	Asn	Lys	Phe	Leu	Thr	Thr	Ala	Lys	Asp	225	230	235	240
Lys	Asn	Arg	Trp	Glu	Asp	Pro	Gly	Lys	Gln	Leu	Tyr	Asn	Val	Glu	Ala	245	250	255	
Thr	Ser	Tyr	Ala	Leu	Leu	Ala	Leu	Leu	Gln	Leu	Lys	Asp	Phe	Asp	Phe	260	265	270	
Val	Pro	Pro	Val	Val	Arg	Trp	Leu	Asn	Glu	Gln	Arg	Tyr	Tyr	Gly	Gly	275	280	285	
Gly	Tyr	Gly	Ser	Thr	Gln	Ala	Thr	Phe	Met	Val	Phe	Gln	Ala	Leu	Ala	290	295	300	

Gln Tyr Gln Lys Asp Ala Pro Gly Ser Gly Lys Val Leu Gln Ala Thr
305 310 315 320

Val Val Ala Val Gly Ser Gly Ser Lys Gly Lys Gly Gly Glu Ile Gln
325 330 335

Pro Val Ser Val Lys Val Gly Asp Lys Val Leu Leu Pro Glu Tyr Gly
340 345 350

Gly Thr Lys Val Val Leu Asp Asp Lys Asp Tyr Phe Leu Phe Arg Asp
355 360 365

Gly Asp Ile Leu Gly Lys Tyr Val Asp Glu Gln Lys Leu Ile Ser Glu
370 375 380

Glu Asp Leu
385

<210> 19

<211> 388

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Fusion Protein

<400> 19

Met Lys Phe Leu Pro Leu Phe Asp Arg Val Leu Val Glu Arg Ser Ala
1 5 10 15

Gly Glu Thr Val Thr Val Asp Ala Glu Arg Leu Lys His Leu Ile Val
20 25 30

Thr Pro Ser Gly Ser Gly Glu Gln Asn Met Ile Gly Met Thr Pro Thr
35 40 45

Val Ile Ala Val His Tyr Leu Asp Glu Thr Glu Gln Trp Glu Lys Phe
50 55 60

Gly Leu Glu Lys Arg Gln Gly Ala Leu Glu Leu Ile Lys Lys Gly Tyr
65 70 75 80

Thr Gln Gln Leu Ala Phe Arg Gln Pro Ser Ser Ala Phe Ala Ala Phe
85 90 95

Val Lys Arg Ala Pro Ser Thr Trp Leu Thr Ala Tyr Val Val Lys Val
100 105 110

Phe Ser Leu Ala Val Asn Leu Ile Ala Ile Asp Ser Gln Val Leu Cys
115 120 125

Gly Ala Val Lys Trp Leu Ile Leu Glu Lys Gln Lys Pro Asp Gly Val
130 135 140

Phe Gln Glu Asp Ala Pro Val Ile His Gln Glu Met Ile Gly Gly Leu
145 150 155 160

Arg Asn Asn Asn Glu Lys Asp Met Ala Leu Thr Ala Phe Val Leu Ile
 165 170 175
 Ser Leu Gln Glu Ala Lys Asp Ile Cys Glu Glu Gln Val Asn Ser Leu
 180 185 190
 Pro Gly Ser Ile Thr Lys Ala Gly Asp Phe Leu Glu Ala Asn Tyr Met
 195 200 205
 Asn Leu Gln Arg Ser Tyr Thr Val Ala Ile Ala Gly Tyr Ala Leu Ala
 210 215 220
 Gln Met Gly Arg Leu Lys Gly Pro Leu Leu Asn Lys Phe Leu Thr Thr
 225 230 235 240
 Ala Lys Asp Lys Asn Arg Trp Glu Asp Pro Gly Lys Gln Leu Tyr Asn
 245 250 255
 Val Glu Ala Thr Ser Tyr Ala Leu Leu Ala Leu Leu Gln Leu Lys Asp
 260 265 270
 Phe Asp Phe Val Pro Pro Val Val Arg Trp Leu Asn Glu Gln Arg Tyr
 275 280 285
 Tyr Gly Gly Gly Tyr Gly Ser Thr Gln Ala Thr Phe Met Val Phe Gln
 290 295 300
 Ala Leu Ala Gln Tyr Gln Lys Asp Ala Pro Gly Lys Val Leu Gln Ala
 305 310 315 320
 Thr Val Val Ala Val Gly Ser Gly Ser Lys Gly Lys Gly Gly Glu Ile
 325 330 335
 Gln Pro Val Ser Val Lys Val Gly Asp Lys Val Leu Leu Pro Glu Tyr
 340 345 350
 Gly Gly Thr Lys Val Val Leu Asp Asp Lys Asp Tyr Phe Leu Phe Arg
 355 360 365
 Asp Gly Asp Ile Leu Gly Lys Tyr Val Asp Glu Gln Lys Leu Ile Ser
 370 375 380
 Glu Glu Asp Leu
 385

<210> 20

<211> 383

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Fusion Protein

<400> 20

Met Lys Phe Leu Pro Leu Phe Asp Arg Val Leu Val Glu Arg Ser Ala
 1 5 10 15

Gly Glu Thr Val Asp Ala Glu Arg Leu Lys His Leu Ile Val Thr Pro
 20 25 30
 Ser Gly Ser Gly Glu Gln Asn Met Ile Gly Met Thr Pro Thr Val Ile
 35 40 45
 Ala Val His Tyr Leu Asp Glu Thr Glu Gln Trp Glu Lys Phe Gly Leu
 50 55 60
 Glu Lys Arg Gln Gly Ala Leu Glu Leu Ile Lys Lys Gly Tyr Thr Gln
 65 70 75 80
 Gln Leu Ala Phe Arg Gln Pro Ser Ser Ala Phe Ala Ala Phe Val Lys
 85 90 95
 Arg Ala Pro Ser Thr Trp Leu Thr Ala Tyr Val Val Lys Val Phe Ser
 100 105 110
 Leu Ala Val Asn Leu Ile Ala Ile Asp Ser Gln Val Leu Cys Gly Ala
 115 120 125
 Val Lys Trp Leu Ile Leu Glu Lys Gln Lys Pro Asp Gly Val Phe Gln
 130 135 140
 Glu Asp Ala Pro Val Ile His Gln Glu Met Ile Gly Gly Leu Arg Asn
 145 150 155 160
 Asn Asn Glu Lys Asp Met Ala Leu Thr Ala Phe Val Leu Ile Ser Leu
 165 170 175
 Gln Glu Ala Lys Asp Ile Cys Glu Glu Gln Val Asn Ser Leu Pro Gly
 180 185 190
 Ser Ile Thr Lys Ala Gly Asp Phe Leu Glu Ala Asn Tyr Met Asn Leu
 195 200 205
 Gln Arg Ser Tyr Thr Val Ala Ile Ala Gly Tyr Ala Leu Ala Gln Met
 210 215 220
 Gly Arg Leu Lys Gly Pro Leu Leu Asn Lys Phe Leu Thr Thr Ala Lys
 225 230 235 240
 Asp Lys Asn Arg Trp Glu Asp Pro Gly Lys Gln Leu Tyr Asn Val Glu
 245 250 255
 Ala Thr Ser Tyr Ala Leu Leu Ala Leu Leu Gln Leu Lys Asp Phe Asp
 260 265 270
 Phe Val Pro Pro Val Val Arg Trp Leu Asn Glu Gln Arg Tyr Tyr Gly
 275 280 285
 Gly Gly Tyr Gly Ser Thr Gln Ala Thr Phe Met Val Phe Gln Ala Leu
 290 295 300
 Ala Gln Tyr Gln Lys Asp Ala Pro Leu Gln Ala Thr Val Val Ala Val
 305 310 315 320

Gly Ser Gly Ser Lys Gly Lys Gly Gly Glu Ile Gln Pro Val Ser Val
325 330 335

Lys Val Gly Asp Lys Val Leu Leu Pro Glu Tyr Gly Gly Thr Lys Val
340 345 350

Val Leu Asp Asp Lys Asp Tyr Phe Leu Phe Arg Asp Gly Asp Ile Leu
355 360 365

Gly Lys Tyr Val Asp Glu Gln Lys Leu Ile Ser Glu Glu Asp Leu
370 375 380